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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/309,361 05/11/99 BURROWS L CALT-2806

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IM22/1122

EXAMINER

CHAMPAGNE, D

ART UNIT

PAPER NUMBER

1765

12

DATE MAILED:

11/22/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/309,361

Applicant(s)

BURROWS, LEE J.

Examiner

Donald L. Champagne

Art Unit

1765

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) /
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5,6.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restriction

1. Applicant's election of claims 1-18 and 22-25 in Paper No. 10 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Hence, the requirement is still deemed proper and is therefore made FINAL. Claims 19-21 and 26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 U.S.C. § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. At claim 23 line 1, "niolate" is indefinite.

Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-13, 17, 18 and 22-25 are rejected under 35 U.S.C. 103(a) as obvious over Holman (US pat. 4,640,736).

Holman teaches a method for annealing an optical waveguide comprising a lithium niobate or lithium tantalate structure (crystal), comprising heating the structure in a sealed oxygen gas atmosphere at a pressure exceeding ambient atmospheric pressure, maintaining pressure

and temperature for an annealing period, and cooling to room temperature (col. 2 lines 3-34 and col. 6 lines 49-51).

Holman does not teach annealing temperature of 150-1000 C or the heating and cooling rates, and pressures of the claims. Temperature, pressure and heating/cooling rates are parameters commonly determined by routine experiment. The process of conducting routine optimization experiments so as to produce an expected result is obvious to one of ordinary skill in the art. Hence, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to conduct routine experiments so as to determine optimum annealing temperature, pressure and heating/cooling rates as expected results.

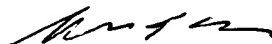
7. Claims 14-16 are rejected under 35 U.S.C. 103(a) as obvious over Holman in view of Japanese patent document JP 04249215 A.

Holman does not teach annealing an optical modulator, including after buffer layer deposit and electrode fabrication. Japanese patent document JP 04249215 A teaches annealing an optical modulator, including after buffer layer deposit and electrode fabrication (Derwent English abstract). Because Japanese patent document JP 04249215 A teaches that heat treating after addition of the electrode (and implicitly after buffer layer deposit since the buffer layer must be deposited before the electrode is formed) raises the damage resistance of the waveguide, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to annealing the crystal after formation of the optical modulator as an expected result.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stoll (col. 4 lines 20-48) teaches some aspects of the instant invention.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Champagne whose telephone number is (703)308-3331.

DLC
19 November 2000


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